United States Environmental Protection Agency

Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

7 January 2010

Reply To
Attn Of: 1910 Northwest Boulevard, Suite 208
Coeur d'Alene, ID 83814

Terry Cundy
Manager, Silviculture, Wildlife and Environment
Potlatch Forest Holdings
530 South Asbury, Suite 4
Moscow, ID 83843

RE: Review comments of the Technical Memorandum (dated 15 December 2009) and Soil Washing Treatability Study Report (dated 14 December 2009), Avery Landing Site, Avery, ID

Dear Mr. Cundy:

Enclosed are comments regarding the above-referenced documents.

The U.S. Environmental Protection Agency (EPA) understands and appreciates that the above-referenced Technical Memorandum is not intended to provide an exhaustive discussion of the investigation data, removal action objectives, or the removal action alternatives. However, as evidenced by EPA's comments, the absence or brevity of information is disconcerting, and the enclosed comments are intended to ensure that the draft Engineering Evaluation/Cost Analysis (EE/CA) Report will provide a meaningful and substantive vehicle for public involvement and evaluate and recommend the appropriate response.

Please do not hesitate to contact me with any technical questions you have regarding the enclosed comments at 208.664.4858 or 208.651.8709.

Sincerely,

Earl Liverman
Federal On-Scene Coordinator

887071

Encl
as

Cc: Richard Mednick, EPA
Kevin Beaton, STOL RIVES

U.S. ENVIRONMENTAL PROTECTION AGENCY RESPONSE TO THE TECHNICAL MEMORANDUM AND SOIL WASHING TREATABILITY STUDY REPORT, AVERY LANDING SITE (7 January 2010)

I. Technical Memorandum – Avery Landing Site EE/CA

As noted in the Engineering Evaluation/Cost Analysis (EE/CA) Work Plan (dated 23 January 2009), the purpose of the Technical Memorandum is to summarize the data and identify whether sufficient data exist for completing the EE/CA; if insufficient data exists, propose additional data needs (with a plan for collection and analysis); and if sufficient data exists for completing the EE/CA, propose removal alternatives (with a detailed description of components) to be evaluated in the EE/CA (see Section 6.0 of the EE/CA Work Plan). However, as noted in the attached comments, it is difficult to ascertain whether the Technical Memorandum achieved the intended purpose.

1. Section 1.0 (Data Summary), page 1

The analytical data summary must include all existing data such as data gathered in prior investigations by EPA and other groups. For example, the data summary does not reference or include prior data gathered by EPA, Hart Crowser, Idaho Department of Environmental Quality, and URS Consultants, Inc., or a discussion regarding the excavation of test pits for soil sampling or for the soil washing treatability study or the potential waste or trash disposal pits discovered during the test pit excavations. Further, "suspension" of the Idaho Default Target Levels for certain compounds is mentioned but not explained. All existing data must be incorporated and analyzed, and significant findings must be presented in a narrative discussion in the EE/CA report.

2. Section 2.0 (Treatability Study Results), page 2

A. Sample TS2U must be clarified (e.g., the Technical Memorandum refers to this sample as a "subsurface" soil sample, whereas the Soil Washing Treatability Study Report refers to the sample as a "surface" sample). Further, the significant findings associated with the sample data are not presented (e.g., quantity of contaminated material, impact on achieving removal action objectives and selection of a removal action alternative, etc). The significance of Sample TS2U must be evaluated and presented in a narrative discussion in the EE/CA report.

B. The EE/CA report must clearly define how the potential hydrocarbon plume extent and smear zone is defined, particularly with regard to 2009 data. Further, the report must address the potential that the sources of the

petroleum contamination may be Bunker C, and that some petroleum may be present at the site as dense non-aqueous phase liquid.

3. Section 3.0 (Data Gaps), page 3

Two potential data gaps are discussed, yet throughout the Technical Memorandum and in this letter several other potential data gaps are identified (e.g., metals as a contaminant of concern, new free product observations on the western section of the site, significance of the TS2U material, size of the hydrocarbon smear zone, trash disposal pits, etc.). Further, a "sheen" test is being conducted and such testing is not included as part of the Treatability Study Work Plan (see Table 1) dated 23 June 2009. All potential data gaps must be evaluated and presented in a narrative discussion in the EE/CA report, and a Treatability Study Work Plan sample alteration form describing the objectives of the "sheen test" and testing methodology, protocols, and quality assurance plan elements must be submitted.

4. Section 4.0 (Removal Action Objectives), page 3

A. The presentation of removal action objectives (RAOs) does not provide the level of specificity required by Section II(B) of the Administrative Settlement Agreement and Order on Consent (ASAOC) Statement of Work (SOW) dated 4 August 2008. In particular, the SOW states "RAOs for protecting human receptors should express the contaminant(s) of concern, an exposure route, and an acceptable contaminant level or range of levels for each exposure route, and the RAOs for protecting environmental receptors should be expressed in terms of the medium of interest and target cleanup levels." The RAOs must be presented in the EE/CA report as required by the SOW, but not so specific that the range of removal action alternatives is unduly limited.

B. As discussed above, the proposed preliminary RAOs are insufficient to clearly define the scope of the removal action, and must be revised to distinguish between human receptors and ecological receptors, as well as address other objectives associated with implementation of the cleanup action.

For example:

Human Receptors

- Prevent human exposure to contaminated soil containing hazardous substances at concentrations that exceed potential cleanup levels, and

- Reduce loadings of hazardous substances to surface water and groundwater so that loadings do not cause exceedances of potential surface water and groundwater ARARs.

Ecological Receptors

- Reduce ecological exposures to contaminated soil containing hazardous substances at concentrations that may result in unacceptable risks, and

- Reduce loadings of hazardous substances to sediment, surface water, and groundwater so that loadings do not cause exceedances that may result in unacceptable ecological risks.

And,

- Dewater areas necessary to treat effectively the contaminated soils.

- Minimize migration of contaminated groundwater through installation of a containment system.

- Initiate removal of volatile organic compounds from contaminated soils through in-situ treatment.

C. The discussion of RAOs (and removal action alternatives) does not address metals detected at concentrations exceeding screening level concentrations (e.g., copper and lead). All organic and inorganic contaminants exceeding screening concentrations must be evaluated as part of the EE/CA streamlined risk evaluation, and RAOs must be developed, as appropriate.

5. Section 4.0 (Removal Action Objectives), page 4

EPA does not concur with the statement "Dissolved contaminants in groundwater have not adversely affected surface water; therefore, groundwater containment or cleanup is not needed as an RAO for the protection of surface water." As discussed in the preceding comment and elsewhere, one or more appropriate groundwater RAOs will be developed for the protection of surface water and will be included in the EE/CA report.

6. Section 5.0 (Preliminary List of Removal Alternatives), page 4

The limited number of proposed removal action alternatives is inconsistent with the minimum alternatives to be evaluated as specified in Section II(C) of the ASAOC SOW. In particular, the SOW states "Based on the analysis of the nature and extent of contamination and on the cleanup objectives developed for the site, several technology alternatives will be subject to detailed analysis, including but not limited to containment, groundwater treatment, *in-situ* and *ex-situ* solidification/stabilization, land application, soil washing, thermal desorption, and off-site treatment." Additionally, the EE/CA Work Plan identified other

potential removal alternatives to be evaluated, including on-site and off-site disposal. The identification and analysis of removal action alternatives presented in the EE/CA report must include the treatment technology alternatives required by the ASAOC SOW and EE/CA Work Plan. Further, screening of the potentially applicable technology alternatives listed above must be rigorously evaluated and presented in a narrative discussion in the EE/CA report.

7. Section 5.1 (Components of the Alternatives) and Section 5.2 (Description of the Alternatives), pages 4, 5, 6, 7, and 8

The discussion of removal action alternatives is insufficient to conceptually understand the full scope of the alternatives. For example:

- Alternative 3 (Improved Containment) does not address the likely impacts to the bed and banks of the St. Joe River, the likely necessity to dewater the site during construction of a slurry wall, what methods are proposed to recover the LNAPL, and how the effectiveness and efficiency of "improved containment" will be measured while allowing groundwater to flow around and underneath the slurry wall:

- Alternative 4 (Improved Containment and "Hot Spot" Treatment) does not address the potential adverse affect to clean overburden associated with a soil vapor extraction system; does not meaningfully describe "hot spot" or "observational approach by means of exploratory trenches" to identify hot spots and to direct cleanup activities;

- Alternative 5 (Improved Containment and Major Source Treatment) does not define "the bulk of site contamination above cleanup levels";

- Alternatives 2, 3, 4, 5, and 6 (Treatment of the Entire LNAPL Plume Area) do not address dewatering activities (i.e., collection, storage, treatment, discharge) necessary to implement the alternatives;

- Alternatives 3, 4, 5, and 6 do not identify area of impact, estimated quantity of contaminated materials to be addressed, or address metals; and

- .Alternatives 4, 5, and 6 are based on decisions made by the "observational approach" and/or the "sheen test."

Each alternative must be described with sufficient detail in the EE/CA report so that the entire treatment process can be understood and meaningfully and substantively evaluated against the criteria of effectiveness, implementability, and cost.

II. Soil Washing Treatability Study Report, Avery Landing Site, Avery, Idaho

8. As discussed above (see Comment No. 2), Sample TS2U must be addressed in greater detail, and the significant findings associated with the sample data must be presented in a narrative discussion. For example, the discussion should address: the depth at which the unsaturated "surface soil" sample was collected; identify any conclusions about the source of the "asphaltic particles" that were not observed in the saturated samples; and any conclusions as to how prevalent these particles might be at the site (i.e., volume estimates).

9. Section 2.0 (Purpose and Scope), page 4, 2nd sentence

The following sentence is prejudicial to the overall intent and credibility of the EE/CA process: "Soil washing is believed to have the highest potential for practical application for the Site." This statement, which is not supported by sufficient data, risk evaluation, or identification and analysis of removal action alternatives, is outside of the scope of the treatability study report.

10. Section 3.1 (Sample Collection), page 5, 3rd paragraph

Clarify how it was determined that "unsaturated soils in several test pits were impacted with hydrocarbons" such that "an additional sample soil was collected at Test Pit 2 (Sample TS2U) for evaluation in this study." Further, since this additional sample appears to be beyond the original scope of the Treatability Study Work Plan, a sample alteration form must be submitted.

11. Section 3.3 (Soil Homogenization, Screening at 12.5 mm (½") and Gravel Washing, page 6, 2nd paragraph

Verify the accuracy of the following statement: "This soil distribution [Table 1] is not corrected for adhering soil present in the coarse gravel fraction greater than 12.5 mm. A correction for adhering soil is provided in Section 3.4 (Table 3)." It appears that a corrected soil distribution is provided in Table 1; Table 3 presents the particle size distribution recalculated for whole soil, not a correction for the adhering soil.

12. Section 3.5 (Untreated Soil Analysis), page 7

A. As stated in the Treatability Study Work Plan (see Table 1) TAL metals, TCL VOCs, and TCL SVOCs were to be performed on the untreated composite samples; however, the results of these analyses are not included as part of the narrative discussion of results. This data is omitted from the summary tables and is not presented as a narrative discussion.

B. The Treatability Study Work Plan (see Table 1, Note 2) states that PCBs were to be analyzed on the "Sample B" fraction from untreated Composites Nos. 1, 2, and 3. However, PCBs were analyzed for only Sample TS2U and Composite No. 3 as stated in the following sentence: "Guided by the results of prior analysis of samples collected by Golder during the Site sampling efforts, only Composite #3 and Sample TS2U were selected to be analyzed for PCB." Explain what the Golder results were and why they indicated that only these two samples were to be analyzed for PCBs.

C. Delete the following sentence: "Levels of PCB detected were low, respectively 0.107 mg/kg and 0.313 mg/kg." One of these samples exceeded the site screening level for the PCB (Aroclor-1260) detected, and "Low" is an accurate descriptor relative to the site screening level.

13. Section 3.0 (Sample Collection and Initial Soil Analysis), Pages 6 and 7

This section does not appear to present a discussion of the dry screening of Sample B nor the resulting Sample C (included in Figure 3).

14. Section 4.5 (Wash Water Clarification and Analysis), page 9

This section does not address whether: there are any issues associated with the presence of contaminants in the wash water; whether the presence of soluble compounds affect the wash water's ability to remove additional constituents; and what impact these contaminants might have on the ultimate treatment and/or disposal of the last batch of wash water.

15. Section 5.1 (Process Description), page 10

This section mistakenly states that "all water used in the soil washing process is recycled." At the end of treatment, some would be left over and require treatment or disposal.

16. Section 6.0 (Conclusions), page 13

Irrespective of the selected treatment technology, excavations will likely be backfilled with treated soils, except where clean soil (soil meeting certain performance criteria) will be used as backfill below a given groundwater elevation and as a soil cover. Analyses were performed during different treatments, and analyses were performed on each soil fraction; however, the results have not been consolidated (i.e., weighted average) to represent what the actual analytical characteristics of the material might be. Thus, this section should include an interpretative statement that addresses this issue.